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ABSTRACT

The annotated bibliography on educational diagnosis and prescription contains 42 listings which are arranged alphabetically by author, and which include title, name of journal or publisher, and publication dates (from 1922 to 1973). Subjects of entries range from a specific discussion of the relationships between written spelling, motor functioning and sequencing skills to more general discussions of reading programs. (LH)

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THE CHILD

AND THE

LEARNING ENVIRONMENT

An Annotated Bibliography
on
Diagnosis and Prescription
in Learning

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Ackerman, Peggy T., Peters, John E., and Dykman, Roscoe A., "Children With Specific Learning Disabilities: Bender Gestalt Test Findings and Other Signs." Journal of Learning Disabilities. Vol. IV, No. 8, (October, 1971), pgs. 34-44.

The report summarizes Bender findings in a group of learning disabled elementary school boys, relating Bender Developmental Error Scores to specific learning deficits and to scores on the Wechsler Intelligence Scale for Children (WISC). Bender Developmental Error Scores are also related to neurological immaturity and to teachers' ratings of activity level in children with learning disabilities (CLD). An overview is presented of research on children with learning disabilities, consolidating neurological, behavioral, intellectual, perceptual, and motor findings.

Ackerman, Peggy T., Peters, John E., and Dykman, Roscoe A., "Children With Learning Disabilities: WISC Profiles". Journal of Learning Disabilities. Vol. IV, No. 3, (March, 1971), pgs. 33-49.

In this study, 82 children with specific learning disabilities (CLD) and 34 controls with adequate academic performance were given the Wechsler Intelligence Scale for Children (WISC). The CLD group scored lower, on the average, than the control group, particularly on arithmetic, digit span, information, and similarities. For 29 CLD -- control pairs, matched for chronological age and mental age, the verbal superiority of controls was rigorously demonstrated. No characteristic WISC profiles were found for CLD grouped as to activity level and neurological status. Serious reading disabilities were associated more reliably with verbal deficiencies than with non-verbal deficits as tapped by the WISC performance scale, but this study demonstrated that the child with either a verbal or performance I.Q. in the low average or dull normal range appears high risk for a smooth academic career in middle-class urban schools.

Anderson, Richard C., and Guthrie, John J., "Effects of Some Sequential Manipulations of Relevant and Irrelevant Stimulus Dimensions on Concept Learning." Journal of Experimental Psychology. Vol. 72, No. 4, 1966, pgs. 501-504.

Alternating series, in which one set of relevant cues appears at odd-numbered trials and another set at even-numbered trials, were contrasted with constant series, in which the same relevant cues appear at every training trial. The principal result was the interaction on both training trials and test trials between type of series and the number of stimulus dimensions changing from trial to trial. For alternating series, the group in which 1 stimulus dimension changed between each pair of adjacent training trials showed fewer errors ($p < .01$) than the group in which 3 dimensions changed. In the case of constant series, the group in which 3 dimensions changed displayed fewer errors ($p < .01$) than the group in which just 1 changed.

Austin, Mary C. "Strategies for Evaluating Reading Programs: Elementary Level". Diagnostic Viewpoints in Reading. Edited by Robert E. Liebert. Newark, Delaware: International Reading Association. 1971, pgs. 8-18.

There are those today who are devoted to analyzing the tasks involved in the successful completion of a designated behavior. Educators can no longer avoid this new area of specialization and technology; school people must think in more analytical terms as they develop and use curriculum study guides. The author stresses the idea that evaluation must be realistic and pragmatic, as well as somewhat idealistic. The total waste of resources that accompanies some elaborate schemes which are excessively time-consuming and virtually impossible to perform should be corrected. **Similarly, those projects which have such limited evaluation plans that little of value is forthcoming for the planning of individualized instruction should be improved qualitatively and quantitatively.**

Bannatyne, Alex D., and Wichiarajote, Penny. "Relationships Between Written Spelling, Motor Functioning and Sequencing Skills." Journal of Learning Disabilities. Vol. II, No. 1, (January, 1969). pgs. 6-18.

The research was carried out on a representative sample of normal third-grade children to investigate whether or not there were any meaningful relationships between spelling ability, motor functioning, balance, handedness, visuo-spatial ability (independent of motor activity), and various auditory and vocal (articulemic) skills. The results reported in this paper refer mainly to the relationship between spelling, psycholinguistic skills and motor functioning. The latter term is used here in its widest meaning in that it includes balance, vocal activity, writing, and to some extent handedness, obviously, kinesthetic sensory feedback is essential to muscular action and, therefore, it too, is implicated.

Benton, Arthur L. "Dyslexia in Relation to Form Perception and Directional Sense." Reading Disability, Progress and Research Needs in Dyslexia. Edited by John Money. Baltimore, Maryland: The John Hopkins Press, 1962. pgs. 81-102.

With respect to indicated investigative work, it would seem that careful longitudinal studies extending over five or ten years should prove to be fruitful in testing the hypothesis put forth, that these perceptual and directional factors are more important in the early learning than in the persistent dyslexia which is of prime interest to clinicians. The finding that some **dyslexics** perform defectively on higher-level right-left orientation tasks which would appear to involve t he operation of conceptual systems suggests that this type of performance should be further explored. It may be that such studies would show that the older dyslexic does show disturbed "form perception" and "directional sense" when the task requires implicit verbal mediation for optimal performance.

Berkson, Gershon, and Cantor, Gordon N. "A Study of Mediation in Mentally Retarded and Normal School Children." Journal of Educational Psychology. Vol. 51, No. 2, 1960, pgs. 82-86.

A group of 24 mentally retarded children and a group of 30 normal children were each divided into experimental and control groups. Each subject learned three lists of paired-associates. The lists which the experimental subjects learned were arranged in an A-B, B-C, A-C paradigm. The control subjects learned lists X-B, B-C, and A-C. The experimental and control conditions differed only in regard to the nature of the stimuli of the first list. The results of this study showed (a) normal children learned paired-associates more efficiently than did the retarded children (b) the experimental condition facilitated the learning of list III for both retarded and normal subjects (c) the degree of facilitation in the learning of list III was not significantly related to the IQ levels of the groups.

Berlin, I.N., and Szurek, S.A. "Learning and Its Disorders." Science and Behavior Books, Inc. 1969.

The author stresses the importance of the ability to learn. He writes that when the most defended, withdrawn, and alienated child with whom many teachers have worked has proved the importance of educational measures as part of a treatment program. When these children begin to learn even the tiniest bit academically, this is reflected in a reduction of their fears about the outer world.

Birch, Herbert G. "Dyslexia and the Maturation of Visual Function." Reading Disability. Edited by John Money. Baltimore, Maryland: The John Hopkins Press. 1962. pgs. 161-169.

The research deals with reading problems in children and the kinds of thinking and theoretical considerations that underlie the development of the investigations. One concept in comparative psychology that is of value in developing an approach to some of the disordered mechanisms which may underlie reading disability is that ways in which organisms differ from one another is in the hierarchical organization of their sensory systems. A second general avenue of approach to the problem of reading disability is suggested by the view in comparative psychology that the evolution of behavior can be conceptualized as the process of the development of intersensory patterning. The final concept derives from developmental psychology to a far greater extent than it does from comparative psychological considerations. The three concepts represent a set of conceptualizations which derive from a particular theoretical approach to the evolution and development of behavioral functions. The article held with the hypothesis that one of the problems which contribute to the development of reading disability is the inadequate development of these higher more complex levels of visual perceptual function.

Birch, Herbert G., and Belmont, Lillian. "Auditory-Visual Integration in Normal and Retarded Readers." American Journal of Orthropsychiatry. Vol. 34, 1964. pgs. 852-861.

In a study of the relation of auditory-visual integration in a total population sample of retarded readers, they were found to be significantly less able integrators than normal readers are. The findings were interpreted as indicating that defects in auditory-visual integration contribute to reading incompetence.

Breedlove, Wanda Gale. "The Diagnostic Teaching of Reading." Diagnostic Viewpoints in Reading. Edited by Robert E. Liebert. Newark, Delaware: International Reading Association. 1971. pgs. 19-29.

The article calls for a diagnostic search of the total learning field for materials, techniques and processes. It asserts the need for an experimental attitude in teacher and learner to constantly evaluate change and the tentative answers that change brings. The learning payoff is the potential for the learner and the teacher-learner to be engaged in the process of evaluating, predicting, acting, and becoming more able to learn in the process.

Blazey, Mark. "Helping Our Failing Children: Remediating Learning Disorders." The Forum. (Winter, 1973). pgs. 10-11.

The structure of intellect (SOI) is briefly discussed. By identifying the abilities according to their individual map of intelligence, educators have been able to remediate the problem that created difficulty in school for the child. A pilot program was initiated to test the SOI educational construct with students other than those who were identified as intellectually "gifted" or "normal".

Broverman, Donald M., and Lazarus, Richard. "Individual Differences in Task Performance Under Conditions of Cognitive Interference." Journal of Personality. Vol. 26, 1958. pgs. 94-105.

The experiment has studied individual differences in the effects of distraction and interference on cognitive performance as a function of cognitive organization. The results show that distraction stress produces less impairment of performance when the task involves a strong cognitive sub-system within the subjects, and that cognitive sub-systems have directive effects on behavior leading, under inference stress, to an orientation towards cognitive operations associated with the stronger of the competing cognitive sub-systems.

Brown, Darrell Lee. "Variations in Test Response of Pre-School Children By Sex and Socioeconomic Level Related to Guilford's Structure of Intellect." Dissertation Abstracts International. University of Pittsburg. Vol. 32. 1972.

The purposes of the investigation were to determine (a) if there were significant correlations between specific mental abilities measured by the 1960 Stanford-Binet Scale and the social status and sex of pre-school children (b) which abilities were more closely correlated to sex and social status and (c) if the relative magnitudes of the correlations could be predicted from J.P. Guilford's Structure-of-Intellect (SOI) Theory of Intelligence. The results showed predictions of significant correlations favoring the high status group and girls on items measuring semantic content. No significant correlations favored the low group or boys. The type of items found most consistently to correlate significantly with the social status of pre-school children were those classified as cognition or comprehension.

Chang, Thomas M.C., and Chang, Vivian, A.C. "The Relationship of Visual Motor Skills and Reading Achievement in Primary-Grade Pupils of Superior Ability." Perceptual and Motor Skills. Southern Universities Press. Vol. 24. 1967. pgs. 51-53.

The study investigated the relationship between visual-motor perceptual skills as measured by the Bender-Gestalt (B-G) and reading achievement and intelligence scores of superior and gifted primary pupils. Second and third grade pupils of superior intelligence were dichotomized into subgroups on the basis of visual-motor development as measured by the Bender-Gestalt. Bender and WISC scores were significantly correlated with reading at the second grade level but not at the third grade. The relationship of reading to visual-motor development and the learning of other skills to read for this type of pupil is suggested.

Dehirsch, K., Jansky, J.J., and Langford, W.S. Predicting Reading Failure. New York: Harper and Row. 1966.

The study deals with the concept of educational intervention prior to entrance into public school. The emphasis involves early childhood education programs for the pre-school handicapped. In keeping with this direction Dehirsch, Jansky and Langford conducted a longitudinal study with findings that children with reading problems can be identified during the pre-school years.

Durrell, Donald D., and Murphy, Helen A. "The Auditory Discrimination Factor in Reading Readiness and Reading Disability." Education for May. 1953. pgs. 556-560.

The purpose of this article is to provide experimental evidence of the merit of practice in noticing sounds in spoken words. In a preliminary investigation of the merit of ear training exercises, special practice in visual discrimination of word elements brought gains that were comparable to ear training, although the combination of the two yielded gains superior to either. The article also discusses evaluation of different methods of

ear training. Status studies in auditory analysis of word elements is also discussed. Through the authors observations, every child who comes to the particular clinic mentioned in the article with a reading achievement below first grade has a marked inability to discriminate sounds in words.

Evans, J.S., and Bangs, Tina. "Effects of Pre-School Language and Learning Disabilities: A Descriptive Analysis." Journal of Learning Disabilities. Vol. 5. (December, 1972).

The study by Evans and Bangs sought to combine the development of predictive instruments with the effects of a replicable training program on the later academic achievement of children with language and learning disabilities. The authors combined the study of a pre-school predictive instrument with the assessment of the effects of pre-school training on the later academic achievement of children with language and learning disabilities.

Farrald, Robert R., and Schamber, Richard G. A Diagnostic and Prescriptive Technique: Handbook I: A Mainstream Approach to Identification, Assessment and Amelioration of Learning Disabilities. Sioux Falls, South Dakota: ADAPT Press, Inc. 1973.

ADAPT, an acrononym for A Diagnostic and Prescriptive Technique, is a multidisciplinary diagnostic-prescriptive teaching process which developed logically from the educational needs of children and the limited manpower and financial resources of the sparsely populated Rio Grande Valley of South Texas and of rural south Dakota. ADAPT is a broad, encompassing diagnostic-prescriptive teaching model developed primarily for regular classroom teachers. It is a process model rather than a classification model. It is designed to serve as a diagnostic and prescriptive filter which insures the most intense and most specialized services will be provided on a differential basis and in response to a child's actual needs. This handbook is merely a tool designed to help the teacher to systematically deliver services to children. The chapters cover learning and the learning disability considered; learning style -psychological/social characteristics; auditory receptive skills; visual receptive skills; and verbal expressive skills.

Feldman, Bernard. "Prediction of First Grade Reading Achievement From Selected Structure Of Intellect Factors." Dissertation Abstract. Palos Verdes, California. 1970.

This study was concerned with the problem of testing the criterion-related validity of Guilford's Structure of Intellect (SOI) by predicting first grade reading achievement from selected SOI factors. A sub problem was the identification of SOI abilities in a pre-literate population. As a result of study, a recommendation was made to investigate the criterion related validity of the SOI model in other academic areas with different SOI factors.

Ferguson, George A. "On Learning and Human Ability". Canadian Journal of Psychology. Vol. VIII. 1954. pgs. 95-112.

It is the purpose of the study to present a generalized theory which draws together within a single conceptual framework the study of human learning and the study of human ability. In the adult subject in our culture, those more or less stable attributes of behavior which are spoken of as abilities and which are defined in terms of performance on psychological tests, refer to performance at a crude limit of learning. Children reared in different environments, which demand different types of learning ages, develop different patterns of learning. The ways in which overlearned acquisitions, or abilities, affect subsequent learning is also discussed.

Frostig, Marianne. "Testing as a Basis for Educational Therapy". The Journal of Special Education. Vol. II, No. 1. 1967. pgs. 15-34.

The point of view advanced in this paper, is that, in addition to programming for children on the basis of group differences, it is of advantage to take into account their individual differences. The paper is concerned with testing as a basis of assessing individual differences for the purpose of designing special educational methods which may improve the learning process in children. Four tests that analyze underlying abilities and pinpoint deficits are discussed. They are the Marianne Frostig Developmental Test of Visual Perception, The Wepman Test of Auditory Discrimination, the Illinois Test of Psycholinguistic Abilities, and the Wechesler Intelligence Scale for Children. The author states that with the exception of the WISC, the tests discussed are comparatively new, still in an experimental stage, and far from flawless. They are not often accessible to the teacher.

Gates, A.I. "The Psychology of Reading and Spelling with Special Reference to Disability". Teachers College Contribution to Education. New York: Teachers College, Columbia University. No. 129. 1922.

This study dealt with the correlates of reading ability in school children. There was no evidence that poor readers differed from good readers in respect to the visual discrimination of nonlinguistic material and the author denied that visual perception of memory could account for reading disability. The implications made were poor educational methods, unfavorable home influences, emotional factors, and defects of vision as determinants of retardation in reading development.

Guilford, J.P. The Nature of Human Intelligence. San Francisco: McGraw Hill. 1967.

The major aim of this volume is to give to the concept of "Intelligence" a firm, comprehensive and systematic theoretical foundation. A comprehensive theory should include all aspects of intelligence. A second major aim is to put intelligence within the mainstream of general psychological theory. It is hoped that an important outcome of this volume will be a better two-way communication between testers and experimenters. Special effort is given to pointing out how theory derived from individual differences in intellectual abilities can

serve useful purposes of general psychological theory. Three chapters provide an introduction. The first presents a short history of tests and discusses the leading historical conception that intelligence is the ability to learn. The second chapter compared three major approaches to the investigation of intelligence and makes a case for the need of a taxonomic approach that tells what variables prevail in human intelligence and hence in human behavior. Five chapters lay the empirical foundation for the SI theory. Four chapters attempt to see how an operational-informational type of psychology, to which SI theory leads, can account for some of the phenomena encountered in the areas of perception, learning, retention, recall, problem solving, and creative production. Models are suggested for perception, for psychomotor activity, and for problem solving. A final chapter attempts to encapsulate the preceding ones and to point out some of the more obvious implications for testing and for education.

Guszak, Frank J. "Strategies of Measuring Student Understanding of Written Materials". Diagnostic Viewpoints in Reading. Edited by Robert E. Liebert. Newark, Delaware: International Reading Association. 1971. pgs. 41-47.

In thinking about the task of measuring pupils' comprehension development, the author's experiences have forced dichotomous questions that ask the following: How are the various types of comprehension measured? How should the various types of comprehension be measured? The author discusses the literal comprehension area in terms of these questions. The areas of recognition and inferential comprehension are also covered along with evaluation in regards to the questions stated.

Hebb, D.O. The Organziation of Behavior. New York: Wiley Press. 1949.

The author suggests that various perceptual abilities represent performance at the limits of learning in perception. In the normal child, the limits of learning in many perceptual tasks may be reached at a fairly early age. The author states further that reasoning ability involves a prolonged period of learning. The author also observed that early learning or its lack may have a permanent and generalized effect in the adult.

Hodges, Walter L., McCandless, Boyd R. and Specker, Howard H. "Diagnostic Teaching for Pre-School Children". The Council for Exceptional Children. Arlington, Virginia 1971.

The study was based on the assumption that experience, environment and training are effective modifiers or intellect. The research was concentrated on psychosocially deprived kindergarten aged children. The authors were interested in specific methods of child control, and the kinds of diagnostic procedures that would evolve as a result of their study and its findings.

Hunter, Edna U. and Johnson, Laverne C. "Developmental and Psychological Differences Between Readers and Nonreaders". Journal of Learning Disabilities. Vol. VI. No. 10. (December, 1971). pgs. 33-38.

This study compared 20 boys with reading disability aged 7-11 to 11-4 with 20 attached controls to examine how nonreaders differ from children who read at age-grade level or better. Significant differences were found between the groups with respect to historical, familial, developmental and psychological factors. Controls had significantly higher WISC verbal IQs; higher WISC information, vocabulary, digit span, arithmetic, similarities and coding subtest scores; and lower mean bender-gestalt scores. The groups differed significantly on familial incidence of Dyslexia, test laterality, self-confidence, attentional factors, hyperactivity, birth order, age at crawling and age at school entry. Significant correlations were found between tested attention and reading proficiency ($r=+.48$).

Jan-Housch, Evelyn. "Reading Diagnosis - The Essential Ingredient in Teaching Every Child to Read". Diagnostic Viewpoints in Reading. Edited by Robert E. Liebert. Newark, Delaware: International Reading Association. 1971. pgs. 1-7.

The author supports the idea that by making reading diagnosis so much of a specialist function that the technique stands in very real danger of becoming divorced from the classroom teacher's concept of her responsibility and of what the total act of teaching reading must and does include. The lack of diagnostic teaching that prevails too often is due either to the teacher's not knowing how to diagnose or to the feeling that it is someone else's function to do so. It is the viewpoint of the author to put diagnosis back into the classroom.

Kagan, Jerome, Moss, Howard A. and Siegel, Irving E. "Psychological Significance of Styles of Conceptualization in Basic Cognitive Processes". Society for Research and Child Development. Vol. 28. No. 2. 1963. pgs. 73-112.

Current theory holds that the child's initial perceptions of the world are global, but, with time, become articulated and differentiated. The article suggests that premise that conceptualization passes through a similar developmental sequence. Concepts, which are labels for groups of similar things, are also global with age. However, there is a second maxim about conceptual growth that is taught to students. With age, the child becomes increasingly more capable of using abstract concepts. Thus, cognitive development is accompanied by more differentiated perceptions and the acquisition of differentiated as well as abstract concepts. The paper further summarizes the author's empirical work to date on the significance of a preference for analytic categorizations in both children and adults.

Karnes, M.B. "A Research Program to Determine the Effects of Various Preschool Intervention Programs on the Development of the Disadvantaged Child". Urbana, Illinois: University of Illinois Institute for Research Exceptional Children. (February, 1968).

Karnes was concerned with educational intervention before public school entrance, specifically early childhood education programs for the preschool handicapped child. Karne's study indicated that structured preschool programs, as compared with unstructured programs, result in greater gains.

Kuenne, Janet B. and Williams, Joanna. "Auditory Recognition Cues in the Primary Grades". Journal of Educational Psychology. Vol. 64. No. 2 1973. pgs. 241-246.

This study deals with how children recognize words aurally. Using a matching technique, subjects chose, from a tape-recorded array, the CVC trigram that most resembled the stimulus item. Each choice represented one particular error in recognition, that is, matching on the basis of single consonants, VC and CV combinations, and the reversal of the CVC stimulus. CV and VC segments were preferred to single consonant segments. There were developmental trends in patterns of choice from kindergarten through first to second grade. Differences between aural work and visual work recognition were noted.

Labouvie, Gisela V., Frohring, Wayne R. and Baltes, Paul B. "Changing Relationship Between Recall Performance and Abilities as a Function of Stage of Learning and Timing of Recall". Journal of Educational Psychology. Vol. 64. No. 2. 1973. pgs. 191-198.

The relationship between a free-recall measure and intelligence and memory abilities was investigated in a sample of 72 college students. After the subjects responded to a battery of eight intelligence and memory-marker tests, they were randomly assigned to two groups; one recalling immediately upon presentation of 30 pictorial stimuli and the other after a delay of 30 seconds. Striking differences were obtained in the correlation patterns involving recall performance and scores on intelligence and memory tests, both between experimental groups and stages of acquisition. Intelligence variables were found to be good predictors of recall performance at later stages of acquisition under delayed recall, while under immediate recall, memory variables predicted recall performance bets at early stages of acquisition. Results are discussed within the framework of cumulative learning models, and implications for the analysis of ability-learning interactions and the specification of learning components are presented.

McCarthy, James J. and McCarthy, Joan F. Learning Disabilities. Boston: Allyn and Bacon, Inc. 1972.

The authors deal with the importance and need for differential diagnosis. It was noted that it is axiomatic that remedial procedures based upon gross or inaccurate diagnosis will not yield optimal results. An adequate diagnosis is critically important. The diagnosis must not only distinguish the child with learning disabilities from the child with categorical disabilities, but it must suggest a course of action.

Meeker, Mary N. "Using Cognitive Abilities as the Diagnostic Basis for Curriculum Planning". Structure of Intellect - Its Interpretations and Uses. Columbus, Ohio: Charles E. Merrill Publishers. 1972.

There are three discrete systems operating within education: administration, curriculum, and psychology. This book attempts to show a way of coordinating two of the systems so that they act as a unity, beneficial to the individual student, economical for the administration. It is the authors' intent to interpret a complex psychological model of intelligence for use within the existing framework of curriculum. A secondary purpose has been to show that cognitive therapy can properly be accomplished within the domain of the school where learning and social problems are most often detected. A direction is given for planning curriculum so that individual and group strengths and deficits are discovered and taught with materials known to teachers. Specific ways of organizing teaching experiences to best benefit students are outlined. The following points are covered: curriculum can be rooted in a theory of intellectual functioning; educational planning for students admitted to special classes can be rooted in this theory of intelligence; programmed curriculum tailored for them individually can be based on the same behavior samplings in the very tests by which they are placed. Individual structure-or-intellect cells are defined and explained. Means of translating Binet and WISC responses to programmed learning are given and a very preliminary attempt to related percept learning to concept learning is demonstrated.

Orton, S.T. Reading, Writing and Speech Problems in Children. New York: W.W. Norton & Co. 1937.

The author elaborated the concept that a disturbed directional sense underlies developmental dyslexia in a series of studies. The author started from the observation that there appeared to be a striking tendency for dyslexic children to show a reversal in right-left orientation in reading letters or words. He proposed the term strephosymbolia ("twisted symbols") as a designation for developmental dyslexia. This impairment of directional sense as applying primarily to symbolic stimuli rather than to all visual stimuli was evidently conceived by the author.

Sapp, Anne C. "Succeeding With Success Environment". American Education. (November, 1973). pgs. 5-10.

Project success environment is an experimental program of the Atlanta Public School System and involves 51 classes at five schools. The project is a tightly organized system involving three components: A positive reinforcement apparatus, an engineered classroom and a modified curriculum. The technique enables the classroom teacher to create an environment where children consistently experience success and approval. Data shows project classes are less disruptive and more work-oriented than regular classes. These classes have also made significantly greater gains in I.Q. scores than comparison classes.

Silver, Archie A. and Hagin, Rosa. "Profile of a First Grade: A Basis for Preventive Psychiatry". Journal of Child Psychiatry. 1972.

One hundred sixty-eight children were examined in the first grade of a public school in the lower east side of New York. The purpose of the examination was the detection of children with potential emotional and cognitive disabilities and the treatment of these children before their symptoms hardened into educational failure and emotional compensation. As a result of the testing, fifty-six children were selected to receive training based upon the specific deviation uncovered. The criteria for selection were the presence of perceptual deviations in spatial and temporal organization, evidence that cerebral dominance for language was not yet established, and difficulty in fine motor coordination.

Smith, C.B. and Dapper, G. "Establishing Central Reading Clinics: The Administrator's Role". U.S. Department of Health, Education and Welfare/Office of Education. (July, 1970).

This article has as its base the fact that extensive research has shown the learning problems of children who do not learn to read to be of such a special nature that they can respond to neither classroom instruction nor to the usual corrective techniques. Smith and Dapper deal with the fact that more and more school systems are turning to diagnostic clinics to help these children with such severe problems.

Sullivan, Joanna. "The Relationship of Creative and Convergent Thinking to Literal and Critical Reading Ability of Children in the Upper Grades". The Journal of Educational Research. Vol. 66. No. 8 (April, 1973). pgs. 374-377.

It is the purpose of this study to show the relationship of arithmetic reasoning, critical thinking, fluency of words, fluency of ideas, sensitivity to problems, and general intelligence to literal and critical reading of sixth and eighth grade pupils. Six tests of intellectual abilities in addition to the STEP Reading Test, Level 3, Form A, were administered to 250 sixth-grade pupils and 276 eighth-grade pupils. Results showed that intercorrelations between two reading measures and general intelligence and arithmetic reasoning accounted for more that 90 percent of the explained variance of literal and critical reading at both grade levels. Results imply, first, that further studies measure the effects of arithmetic reasoning exercises upon improving comprehension; secondly, that standardized tests be developed which tap creative thinking abilities.

Winkley, Carol K. "What Do Diagnostic Reading Tests Really Diagnose?" Diagnostic Viewpoints in Reading. Edited by Robert E. Liebert. Newark, Delaware: International Reading Association. 1971. pgs. 64-80.

A study was made of nine reading tests, including those planned for both individual and group administration, which are claimed to be chiefly diagnostic instruments. Through a careful examination of subtests on nine different diagnostic test batteries, the following results were revealed. These instruments have a variety of purposes, several of which are not truly diagnostic in nature. Most of the instruments cannot be used to determine a child's chief area of skill deficiency. It is not possible to pinpoint specific problems in the areas of vocabulary, comprehension or rate with these instruments. Most of the word recognition skills evaluate spelling ability rather than reading ability. Group-administered tests are limited to silent-type activities. No single test, group or individual, assesses all subskills of word recognition from knowledge of consonant sounds to ability to select the accented syllable in an unknown word. Skills required to unlock single syllable words are measured more frequently than those required to attack multisyllabic words. Certain errors exist, particularly in the selection of affixed words.

Wolking, William D. "Predicting Academic Achievement With the Differential Aptitude and the Primary Mental Abilities Tests". The Journal of Applied Psychology. Vol. 39. No. 2. 1955. pgs. 115-118.

A comparison was made between the usefulness of the DAT and PMA Test batteries as predictors of academic achievement in high school. The subjects were 130 girls and 128 boys in the eleventh grade of a small, city high school. A counterbalanced design was effective in nullifying practice effects. The main conclusions are (1) the corresponding subtests of the two batteries show moderate to substantial intercorrelations. The verbal tests are measuring a similar aptitude and the spatial tests show moderate intercorrelations, whereas the number tests show considerable independence. (2) The tests do not generally predict best in the subject usually assumed to be measured by that test. All tests show their greatest effectiveness in the prediction of science, geometry, and algebra grades. (3) The DAT shows higher validities in general then the PMA. The DAT number test is significantly superior to the PMA number test as a predictor of high school grades for both sets.